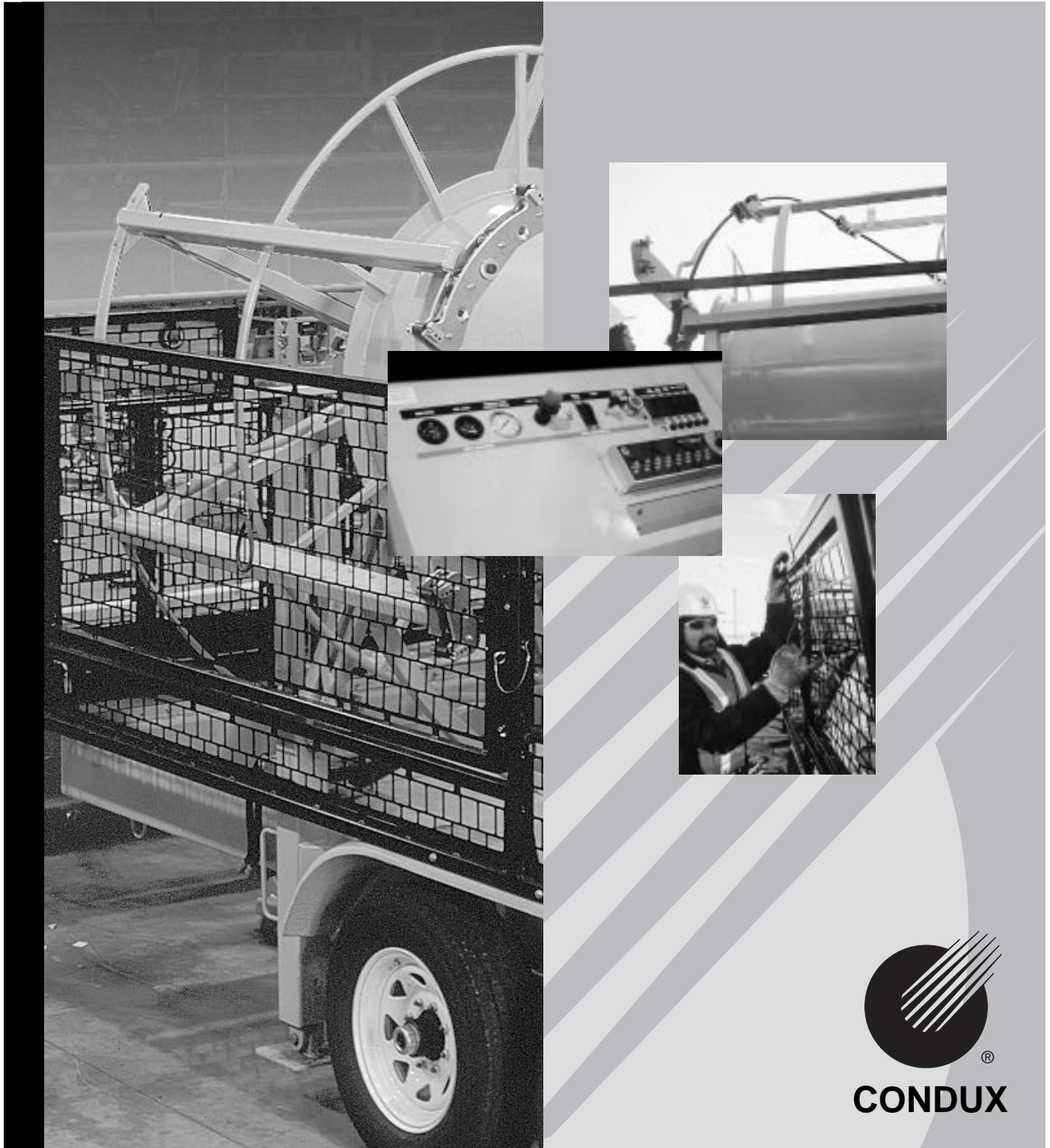


# USER'S GUIDE & SAFETY MANUAL

## Figure-8 Eliminator Trailer



# Important Safety Notice

Read and understand all procedures and safety instructions before using a Condux Figure-8 Eliminator Trailer. Observe all safety information on this page and note specific safety requirements as explained by procedures in this manual. Failure to follow these instructions could result in serious personal injury or death.

## ADVERTENCIA:

Favor de leer y comprender todas las instrucciones de operación y seguridad antes de usar la máquina. Si Ud. no comprende las instrucciones favor de consultarle a su jefe.



**Save this user's guide for future reference.**

### COMMUNICATIONS WITH THE MANUFACTURER

For any information related to the machine (use, maintenance, spare parts) always state Model, Serial Number, Manufacturing Year and Order. This data can be found in the machine identification table.

Manufacturer:  
Condux International Inc.  
145 Kingswood Rd  
Mankato, MN 56002-0247  
1-507-387-6576  
Fax 1-507-387-1442  
Internet: <http://www.condux.com>  
E-mail: [condxinfo@condux.com](mailto:condxinfo@condux.com)



If you have questions on:

**SAFETY - OPERATIONS - APPLICATIONS**

CALL 1-800-533-2077

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# Technical Information

## 1.

The Condux Figure-8 Eliminator Trailer is designed to greatly reduce cable splicing and the need to manually "figure-eight" cable by allowing longer continuous runs when no cable end is available. The Trailer removes cable from a cable reel, and then dispenses it.

This unit is not intended for use where cable ends are available, nor is it a device for transporting cable.

Do not figure-eight any dual strength member fiber optic cable using the Condux Figure-8 Eliminator Trailer. Condux will not warranty or be held liable for any cable damage resulting from the use of dual strength member fiber optic cable on the Condux Figure-8 Eliminator Trailer.

In addition, the Condux Figure-8 Eliminator Trailer can be used as a hydraulic power source in tandem with a Condux Fiber Optic Cable Blower.

### GENERAL SPECIFICATIONS

<b>Figure-8 Eliminator Trailer</b>	Used to eliminate the need to manually figure-eight fiber optic cable.
<b>Electronic Control System</b>	Control all functions of the trailer.
<b>Drum &amp; Arm Assembly</b>	Fully enclosed on all four sides by safety cages.
<b>Loading Cable</b>	Loaded from ground level without having to climb into trailer - access doors through safety cages.
<b>Freewheel Mode with Variable Drag</b>	Adjustable through electronic controls, used when cable is being pulled off the drum by Fiber Optic Blower.
<b>Arm Assembly</b>	Can be freewheel by switching on the disengage arm switch.
<b>Arm Placement</b>	Arms must be locked into position during transport to prevent the beam from fatiguing.
<b>Trailer to be used for Handling Cable</b>	Trailer to be used for handling cable in figure-8 situation only. Not for transporting cable.

### CABLE HANDLING SPECIFICATIONS

<b>Maximum Cable Diameter</b>	1.05" (26.67 mm)
<b>Max. Cable Loading Tension</b>	160 lb. (712 N)
<b>Minimum Bend Radius</b>	20 times the cable diameter through guide roller (20 x 1.05= 21" (533 mm) bend radius)
<b>Minimum Drum Diameter</b>	42" (1,067 mm)
<b>Cable Loading Speed</b>	Maximum speed is 785 ft/min (239 m/min) on a full drum, Maximum speed is 440 ft/min (134 m/min) on an empty drum
<b>Arm Speed</b>	40 RPM
<b>Roller Block Operation</b>	Easily operated with one hand.
<b>Stabilizer Jacks</b>	Manual outrigger jacks.
<b>Cable Capacity</b>	48,000 ft of 1/2" diameter cable (15 km of 13 mm cable) 31,000 ft of 5/8" diameter cable (10 km of 16 mm cable) 22,000 ft of 3/4" diameter cable (7 km of 19 mm cable) 16,000 ft of 7/8" diameter cable (5 km of 22 mm cable) 12,000 ft of 1" diameter cable (4 km of 25 mm cable)

TRAILER SPECIFICATIONS	
<b>Axle</b>	Dual axle, rated for 12,000 lb. (5,443 kg) capacity
<b>Brakes</b>	Electric
<b>Hitch</b>	Pintle ring hitch for electric brake
<b>Dual Safety Chains</b>	Minimum 10,000 lb (4,536 kg) capacity
<b>Lighting</b>	Full DOT approved lighting package with reflective tape
<b>Front Tongue Jack</b>	Rated for 7,000 lb. (3,175 kg) capacity
<b>Trailer Weight</b>	6,500 lb. (2,948 kg)
<b>Trailer Dimension Size</b>	8' (2.44 m) wide x 9' 6" (2.90 m) high x 21' 6" (6.55 m) long
<b>Tongue Weight</b>	600-650 lb. (272-295 kg)

HYDRAULIC SPECIFICATIONS	
<b>Engine</b>	16 HP @ 3170 RPM (12 kW @ 3170 RPM) Briggs & Stratton V-Twin Vanguard *16 HP (12 kW) Diesel engine is an option
<b>System Pressure</b>	3,000 psi (207 bar)
<b>Hydraulic Flowrate</b>	7 gpm (26 lpm)
<b>Fuel Capacity</b>	12 Gallon (45 liters) estimated to last up to 12 hours of operation
<b>Hydraulic Fluid Sight Gauge With Thermometer</b>	Mounted on hydraulic tank to monitor fluid level and fluid temperature
<b>Filtration</b>	5 Micron high pressure and 10 micron low pressure filters used to keep hydraulic oil clean.
<b>External Hydraulics</b>	2,500 psi (172 bar), 6.5 gpm (25 lpm) external hydraulic circuit.  Plumbed at rear of trailer with quick connects for Condux Fiber Optic Blower.
<b>Thermostatic Control Valve</b>	Used on inlet of the cooler to prevent hydraulic fluid flowing through 7.8 HP (5.8 kW) cooler when temperature has yet to reach 100 C.

ELECTRICAL / ELECTRONIC SPECIFICATIONS	
<b>Electrical System</b>	12 volt DC
<b>Batteries</b>	Two 12 volt VDC Batteries
<b>Control Panel</b>	Controls: throttle, arm disengage, strobe lights, work light, blower and controller switches with fuses, also the hour meter, emergency stop switch, hydraulic system pressure, fuel gauge, choke and push start button.
<b>Glow Plug</b>	Offered for the diesel engine
<b>Lights</b>	Two strobe and four clearance lights are offered to satisfy the DOT specification. Work light is offered to operate the machine in the dark.
<b>Isolated 12 VDC Power Supply for ECB</b>	Charges through main system, and it is isolated by a diode to prevent drawing from this power supply for the work light, strobe lights, starter, blower, free wheel solenoid and throttle.
<b>Limit Switches</b>	On all openings and tipping gates
<b>Rear Electric Turk Connector</b>	To power to Fiber Optic Cable Blower
<b>Storage Area</b>	Secured, weather resistant, and shock absorbing for the remote control and 65' (20 m) of control cable.
<b>Mounts</b>	For remote in/near control panel, also a mount on the Fiber Optic Cable Blower for the remote.

# ***Safe Operating Practices***

---

## **2.**

Read and understand all procedures and safety instructions before using the Condux Figure-8 Eliminator Trailer. Observe all safety information on this page and note specific safety requirements as explained by procedures called out in this manual. Failure to follow these instructions could result in serious personal injury, property damage or death.

### **A. WORK AREA SAFETY**

1. Wear personal protective equipment: hard hat, safety glasses, safety shoes, and leather work gloves.
2. The safe operation of this equipment requires that the operators be on stable footing.
3. Stay clear of cables or lines under tension.
4. Do not place cable spool too close to unit. Place the spool far enough away from the unit to ensure proper control.
5. Do not tamper with relief valves or pressure reducing valves.

### **B. HYDRAULIC DEVICES**

Escaping fluids under pressure can penetrate the skin and cause serious personal injury. Observe the following precautions to avoid hydraulic hazards:

1. Tighten all connections before applying pressure. Relieve pressure when connecting or disconnecting hoses when servicing the unit.
2. Check for leaks with a piece of cardboard. Do not use your hands!
3. Do not exceed working pressure of hydraulic hoses.
4. Visually inspect hoses regularly and replace if damaged.

### **C. ELECTRIC DEVICES**

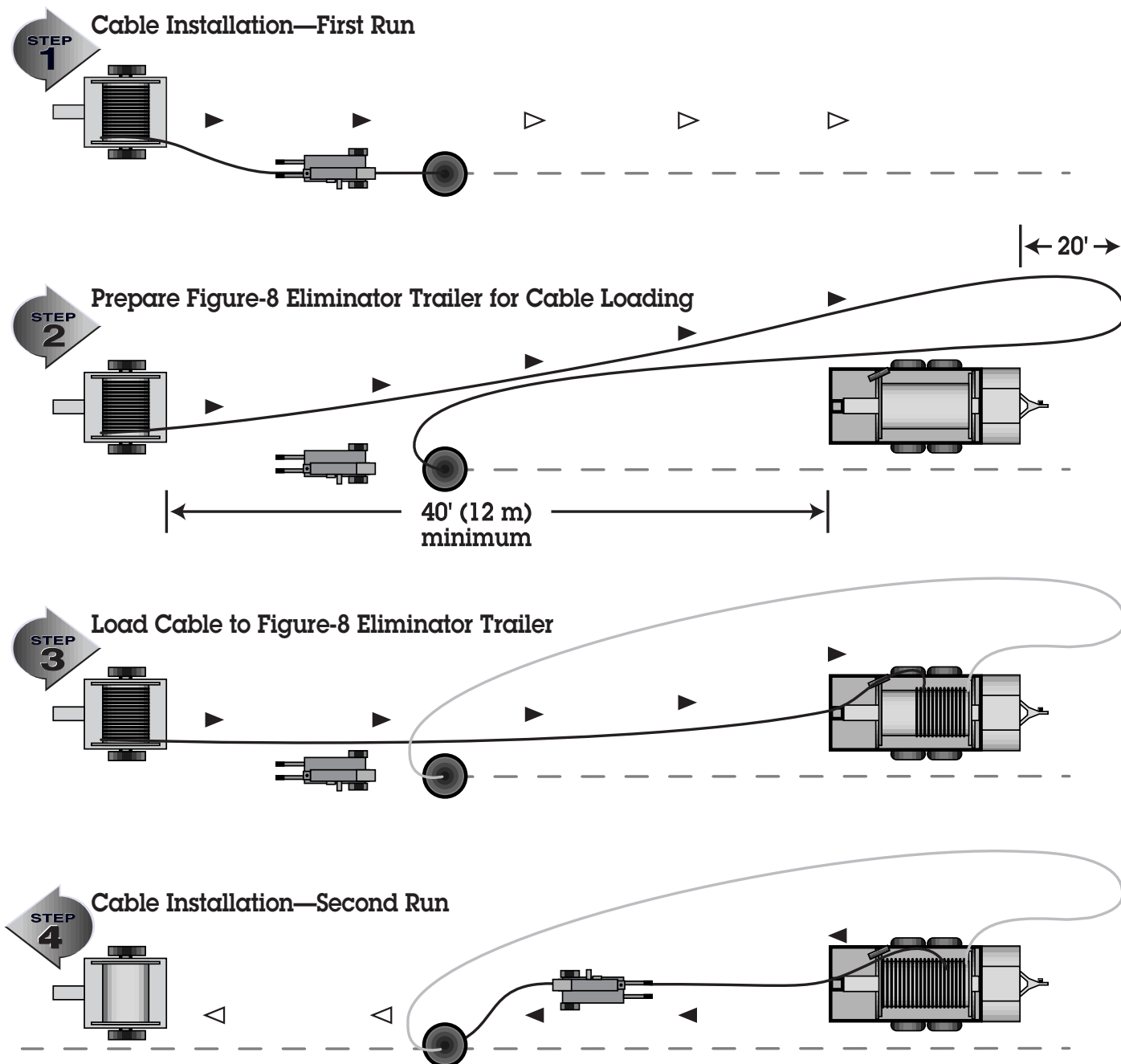
The Hand-Held Wired Remote Controller is an electrical device. Electric shock hazards exist that could result in severe personal injury or death. Observe the following precautions to avoid electrical hazards:

1. Do not operate in or near water. This includes setting the Hand-Held Wired Remote Controller on a wet surface or exposing them to rain.
2. Do not remove cover of the Hand-Held Wired Remote Controller or Electronic Machine Controller. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.
3. The Hydraulic Power Unit Controls Power Switch and Controller Power Switch should be in the off position before connecting or disconnecting any cords.

# Jobsite Set-Up Guidelines

Time spent planning your equipment's placement (layout) at the job site will benefit both the operation of the equipment and the safety of your crew at the site. It is best to determine the layout of all equipment before disconnecting, stabilizing and leveling the Figure-8 Eliminator Trailer. Because no two job sites are the same, the illustrations that follow should be used as general guidelines to get the most benefit and safest operation from your Figure-8 Eliminator Trailer.

# 3.

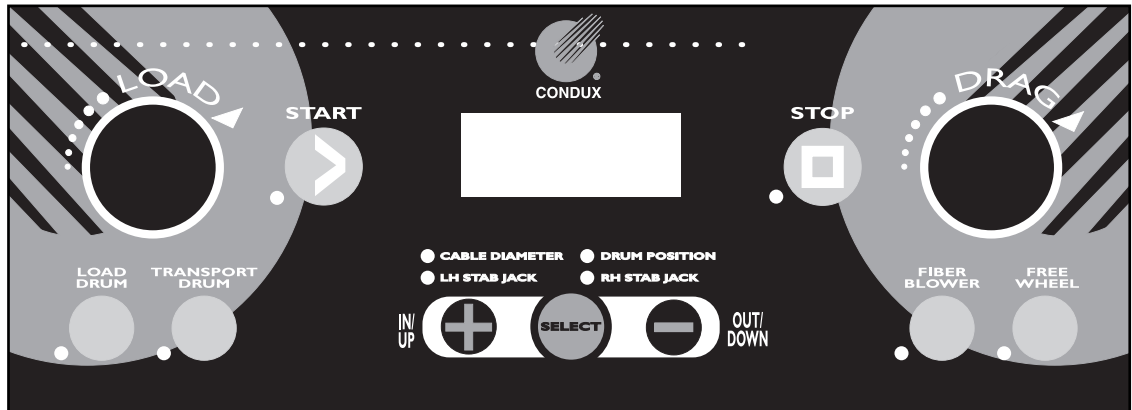




# Electronic Control Features and Operation

## 4.

### A. HAND-HELD WIRED REMOTE CONTROLLER



#### Load Dial

- Controls the speed of the rotating arms from 0 rpm to maximum 40 rpm.

#### Load Drum button

- Moves the drum to the rear of the machine so the cable can be loaded onto the machine.
- Stop button will stop the drum from moving and stop this function.
- Pressing the Load Drum button while the function is active will have the same effect as pressing the Stop button.

#### Transport Drum button

- Moves the drum to the front of the machine for transport.
- Stop button will stop the drum from moving and stop this function.
- Pressing the Transport Drum button while the function is active will have the same effect as pressing the Stop button.

#### Start / On button

- Starts the machine so the Load Dial is functional and allows the arms to rotate.
- Stop button will stop the arms from rotating and stop this function.
- Load Dial must be turned all the way to zero (counterclockwise) in order to activate the start button. LED will flash if the Load Dial is not all the way to zero.

#### 4 digit 7 segment LED display

- Normally displays the cable diameter in millimeters or the Drum Position.
- Also displays error codes when an error condition is encountered: FL 1-FULL if the pressure filter is full; FL 2-FULL if the return filter is full; or door-OPEN when one of the safety gates is open. These error conditions will flash between the first and second words and will display for 5-10 seconds before going back to displaying the cable diameter or Drum Position. They will cycle on approximately every 20-30 seconds.
- An additional error code will be displayed when connected to the Condux FO Blower and the blower has been stopped by the blower electronics: FOCB-StOP. This error condition will flash between the first and second words and will display as long as the trailer has been disabled by the blower. This condition can be cleared by pressing the Stop button.



### **Stop button**

- This button will stop all operations of the machine.
- LED beside button is lit when none of the other functions are operating. Also functions as a “power on” indicator.
- If arms are rotating, they will take approximately 2 seconds to stop.
- If the Condux FO Blower has stopped the machine, pressing the Stop button will clear the stop forced by the blower.

### **+ / In / Up button and - / Out / Down button**

- Increments the cable diameter when the Cable Diameter LED is selected.
- Moves the Drum Position backwards or forwards while loading or unloading cable.

### **Select button**

- Allows selection between Cable Diameter and Drum Position.

### **Cable Diameter LED**

- Indicates that the cable diameter can be adjusted up or down with the + / - buttons.
- Cable diameter can be adjusted only when NOT loading or unloading cable. Cannot be adjusted when Load Drum or Transport Drum are operating or when Condux FO Blower has stopped the machine.

### **Drum Position LED**

- Drum Position can be adjusted at any time when loading or unloading cable.
- (+) Key speeds drum up, (-) key slows drum down.
- Readout on the LCD display is relative to the Drum Position on the trailer and is not an indication of speed or distance.

### **LH Stab Jack & RH Stab Jack LEDs**

- These functions are not used.

### **Drag Dial**

- Controls the amount of drag on the rotating arms when in free wheel mode.
- Dial will control drag from very little drag on the arms to a very large amount of drag.

### **Fiber Blower button**

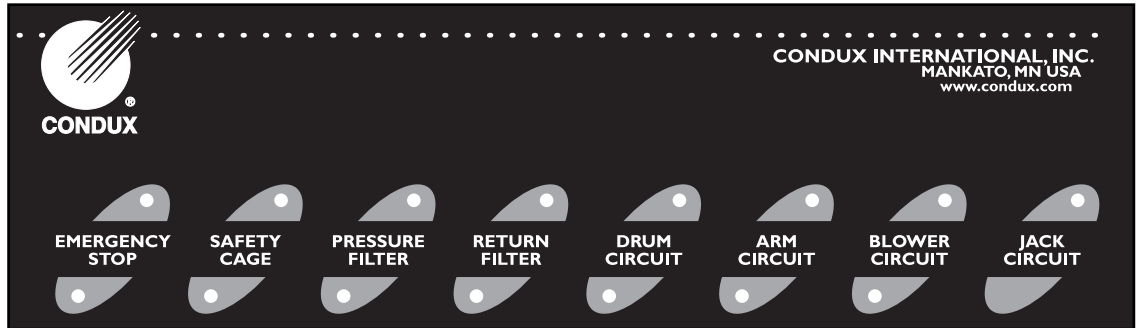
- Activates the external circuit that provides hydraulic fluid to the Condux FO Blower.
- LED beside button is lit when the circuit is activated.
- Free Wheel button and function will also be activated when the Fiber Blower button is pressed.
- Stop button will remove power from this circuit and stop this function and the free wheel function, both LED's will go out.
- Pressing the Fiber Blower button while the function is active will close the hydraulic circuit and the fiber blower LED will go out, however, the Free Wheel button and function will NOT be stopped.

### **Free Wheel button**

- Places the trailer into free wheel mode.
- Free Wheel button and function will also be activated when the Fiber Blower button is pressed. However, the Fiber Blower button and function will NOT be automatically activated when the Free Wheel button is pressed.
- Stop button will stop this function and the fiber blower function.
- Pressing the Free Wheel button while the function is active will stop the free wheel mode and the Fiber Blower will also be stopped.

## B. ELECTRONIC MACHINE CONTROLLER

Refer to page 11 for a full explanation of the Electronic Machine Controller functions.



## C. FILTERS, GATE & EMERGENCY STOP DETAILS

The Filters, Gate and Emergency Stop devices are connected in a fail-safe configuration. This means, these devices require a closed contact in normal working condition. When the circuit goes open circuit, a fault condition results. The following illustrations indicate the expected result.

### Pressure Filter

When the Pressure Filter is contaminated and restricts the flow of oil, the pressure build up in the canister will cause the indicator

contacts to open or an open circuit condition occurs from a broken cable or terminal, the following is displayed. The trailer will continue to operate at a reduced performance level.



### Return Filter

When the Return Filter is contaminated and restricts the flow of oil, the pressure build up in the canister will cause

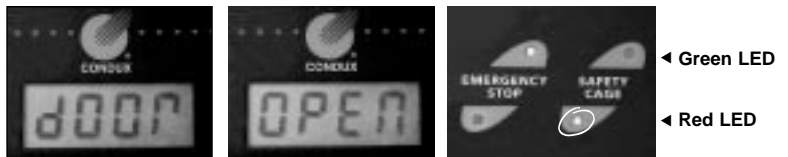
the indicator contacts to open or an open circuit condition occurs from a broken cable or terminal, the following is displayed. The trailer will continue to operate at a reduced performance level.



### Cage Gates

When the Access Doors are opened or the Tilt Panels are not tilted out, or the circuit to the Access Door

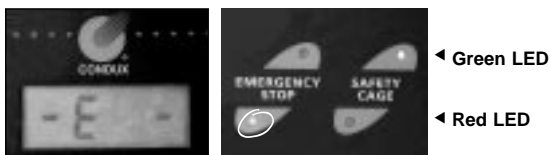
sensor is damaged, the following is displayed. The trailer will NOT continue to operate and the condition must be corrected.



### Emergency Stop

When the Emergency Stop is activated or the circuit to the E/Stop is damaged the following will be displayed. The

trailer will NOT continue to operate and the condition must be corrected.



FUNCTION DESCRIPTION	GREEN LED	RED LED	OFF
<b>Emergency Stop</b>	Green LED indicates that no Emergency Stop buttons have been pressed.	Red LED indicates that one of the Emergency Stop buttons has been pressed.	
<b>Safety Cage</b>	Green LED indicates that all Access Doors are closed.	Red LED indicates that one of the Access Doors is open or the Tilt Panel is not tilted open.	
<b>Pressure Filter</b>	Green LED indicates that the Pressure Filter is in good condition.	Red LED indicates that the Pressure Filter is full and in need of cleaning / replacing. The Red LED will stay lit until maintenance is completed. The trailer will continue to operate at a reduced performance level.	
<b>Return Filter</b>	Green LED indicates that the Return Filter is in good condition.	Red LED indicates that the Return Filter is full and in need of cleaning / replacing. The Red LED will stay lit until maintenance is completed. The trailer will continue to operate at a reduced performance level.	
<b>Drum Circuit</b>	Green LED indicates that the drum valve has been activated and the potentiometer (position sensor) is reading the Drum Position.	Red LED will display if the drum is not moving.  If the drum circuit has been activated and the drum is moving, but the red LED is constantly lit, the potentiometer isn't reading a change in the Drum Position. This would indicate that either the potentiometer is bad or the valve isn't operating.  The red LED may flash while the drum is moving. This is normal.	Both LEDs would be OFF when the Drum Circuit isn't activated at all.
<b>Arm Circuit</b>	Green LED indicates that the arm valve (server) has been activated and the speed sensor is reading the motor rotation.	Red LED will display if the arm is not moving.  If the Arm Circuit has been activated and the arm is moving, but the red LED is constantly lit, the speed sensor isn't reading a change in the arm position. This would indicate that either the speed sensor is bad or the valve isn't operating.  The red LED may flash while the arm is moving. This is normal.	Both LEDs would be OFF when the Arm Circuit isn't activated at all.
<b>Blower Circuit</b>	Green LED indicates that the Blower Circuit has been activated.		LED would be OFF when the Blower Circuit isn't activated at all.
<b>Jack Circuit</b>	This function is not used.		

# ***Prepare for Operation***

## **5.**

It is essential that the Figure-8 Eliminator Trailer be properly set up before operation. Using the following procedure will allow the unit to be set up in a short period of time and yield optimum performance.

- A. The trailer may be disconnected from the tow vehicle or left connected, depending on your specific job site conditions.
- B. Use wheel chocks (not included) to prevent trailer movement.
- C. Disconnect Arm Lock. Unscrew the locking mechanism (Figure 1). Fold back (Figure 2) and secure with safety pin (Figure 3).



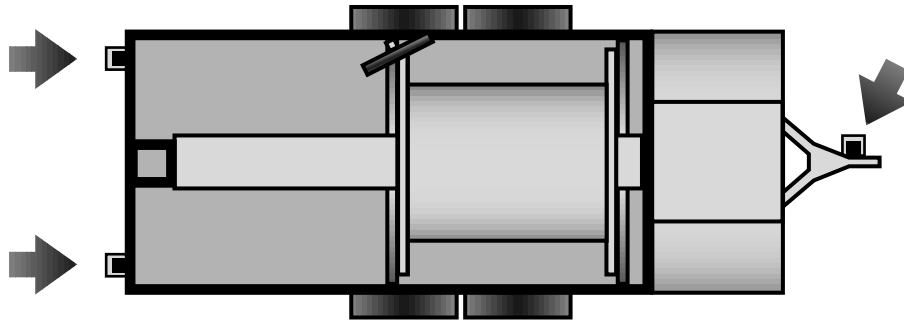
**Figure 1. Disconnect Arm Lock**



**Figure 2. Fold Back Arm**



**Figure 3. Secure With Safety Pin**



**Figure 4. Jack Mounts**

D. Stabilize the trailer. Use only the adjustable leveling jacks (3 supplied) for trailer stabilizing and leveling. Jacks must be placed securely on jack mounts located on the trailer frame at the rear of the trailer and on the tongue (Figure 4). Do not attempt to locate jacks in any other position. To secure a jack in position, align jack with a jack mount and insert safety pin (Figure 5). Raise and lower jacks by rotating crank handle.

E. Open Tilt Panels on the safety cage by pulling the release cable located on both the front and rear ends (Figure 6). Lock Tilt Panels into open position with the attached safety pin (Figure 7).



**Figure 5. Align Jack with a Jack Mount and Insert Safety Pin**



**Figure 6. Open Tilt Panels**



**Figure 7. Lock Tilt Panels Into Open Position**

F. Move drum into load position

**NOTE:** Before starting the engine, check hydraulic fluid level, engine oil level, and diesel/gasoline fuel level.



**Figure 8. Connect Electronic Machine Controller**

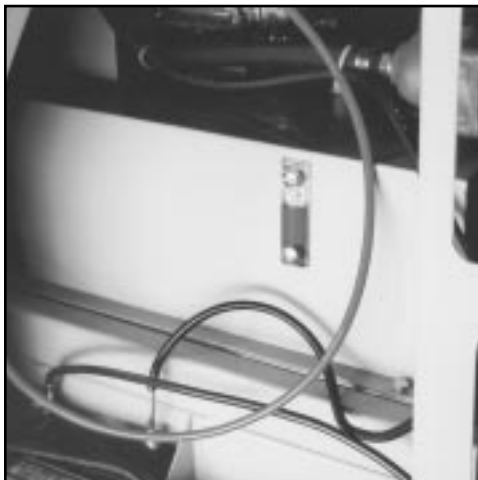


**Figure 9. Connect Hand-Held Wired Remote Controller**

1. Hook up electronics. Connect both the Electronic Machine Controller (Figure 8) and the Hand-Held Wired Remote Controller (Figure 9).
2. Start the engine using the electric start switch at the Electronic Machine Controller panel (Figure 10).

**IMPORTANT! It is critical to warm the hydraulic fluid to 100°F before operating the machine. Hydraulic fluid temperature is indicated by a thermometer in the engine compartment (Figure 9a).**

3. Turn the controller on by using the switch at the Electronic Machine Controller panel (Figure 10).
4. Engage the Engine Throttle. Pull out knob located on the Electronic Machine Controller panel. Or, turn on the throttle switch (if equipped with electronic throttle).



**Figure 9a. Hydraulic Fluid Thermometer**

5. Push Load Drum button on the Hand-Held Wired Remote Controller. The drum will move and automatically stop when in load position. (See Section 4).



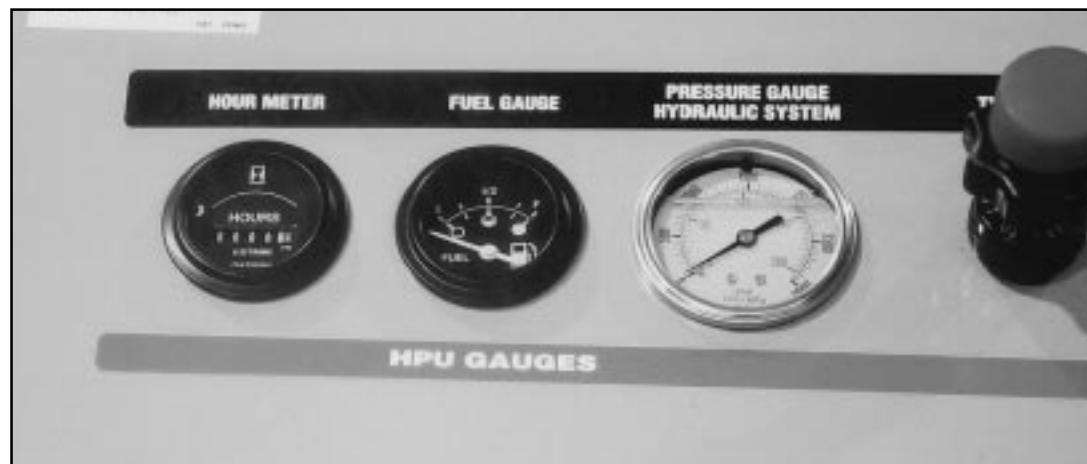


Figure 10. Electronic Machine Controller Panel



# Load Cable

# 6.

To begin the loading procedure the cable must be threaded and secured properly through the fairlead assembly, quad keeper rollers, double keeper rollers, cable notch and cable clamp. Proper cable threading is essential for a successful winding. Because there is no “free end” of the cable at this point in the installation, a procedure has been developed to thread the cable on to the drum using cable slack.

- A. Open the Access Doors in the safety cage’s Tilt Panels by pulling the release cable located on each Access Door (Figures 11 & 12).



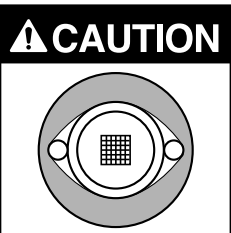
Figure 11. Pull Release Cable



Figure 12. Open Access Doors



**CAUTION:** Follow cable manufacturers guidelines for minimum bend radius for cable you are using. Failure to do so may result in permanent damage to cable.



**CAUTION:** Do not figure-eight any dual strength member fiber optic cable using the Condux Figure-8 Eliminator Trailer. Condux will not warranty or be held liable for any cable damage resulting from the use of dual strength member fiber optic cable on the Condux Figure-8 Eliminator Trailer.

- B. Pull out slack from the cable reel to pass at least 20 ft. (6.1 m) beyond the front (engine) end of the Figure-8 Eliminator Trailer (Figure 13).
- C. Turn on the Arm Disengage switch on the Electronic Machine Controller panel (Figure 10).

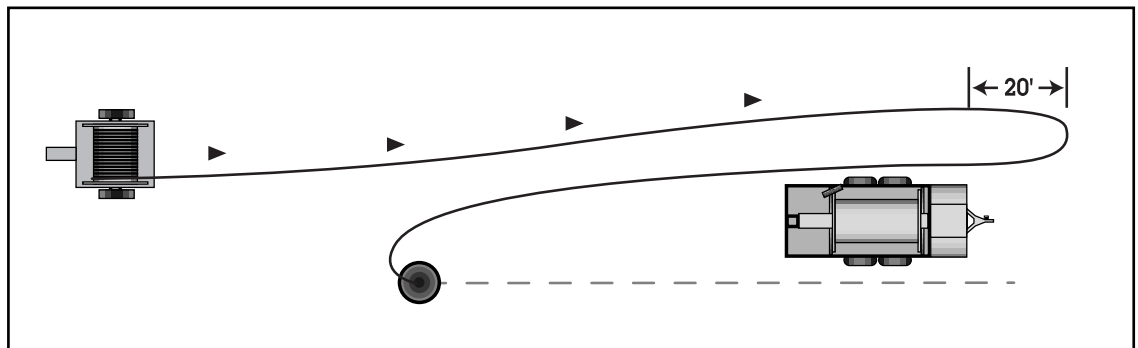
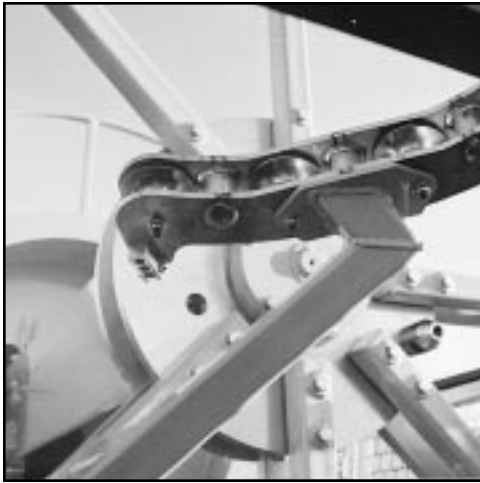


Figure 13. Cable Slack



**Figure 14. Position First Quad Block Horizontally**



**Figure 15. Open Rear Fairlead Assembly**

D. Rotate arms manually until the far rearward quad block is in a horizontal position (Figure 14).



**Figure 16. Lay Cable In Place**

E. Open rear fairlead assembly (Figure 15) and lay cable in place (Figure 16).

**Important! Cable is loaded from the back of the trailer to the front using additional cable from the cable reel, NOT from the cable slack pulled out in step B.**

F. Open the quad keeper roller by lifting the roller and pin from its seat (Figure 17) and lay cable in place.

G. Close and lock the quad keeper roller (Figure 18).



**Figure 17. Lift Roller And Pin From Seat And Place Cable**



**Figure 18. Close and Lock Quad Keeper Roller**

- H. Close and lock the fairlead roller assembly (Figure 19).
- I. Proceed to next keeper roller on the arm. Continue to rotate arms manually and be sure to extract cable from the reel, not from the slack pulled out in step B.



**Figure 19. Close and Lock Fairlead Roller**



**Figure 20. Place Cable In Next Quad Keeper Roller**

- J. Open quad keeper roller and lay cable in place as in step F. Close and lock quad keeper roller as in step G (Figure 20).
- K. Manually rotate arms to locate 3 double keeper rollers (Figure 21) in sequence. Follow the procedure to open, lay in cable, and close as in steps F and G (Figure 22).



**Figure 21. Locate 3 Double Keeper Rollers**



**Figure 22. Place Cable In Double Keeper Rollers**

- L. Manually rotate arms to locate the final quad keeper roller and follow the procedure to open, lay in cable and close as in steps F and G.

M. Manually spin arms around until the cable nests on the drum (Figure 23).

N. Nest cable in notch on drum (Figure 24).



**Figure 23. Manually Spin Arms**



**Figure 24. Nest Cable In Notch On Drum**

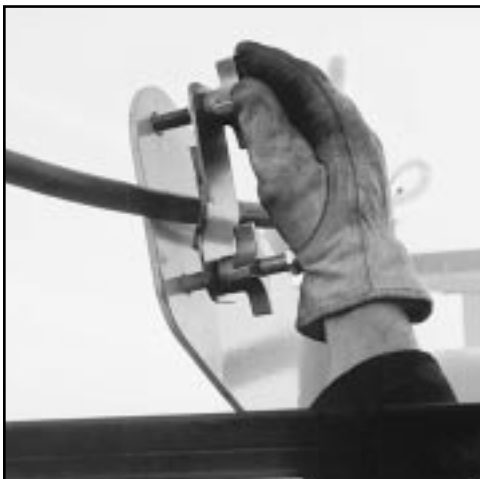
O. Open cable clamp and secure cable inside (Figure 25).

P. Manually turn arms to wrap 2 complete wraps on drum.

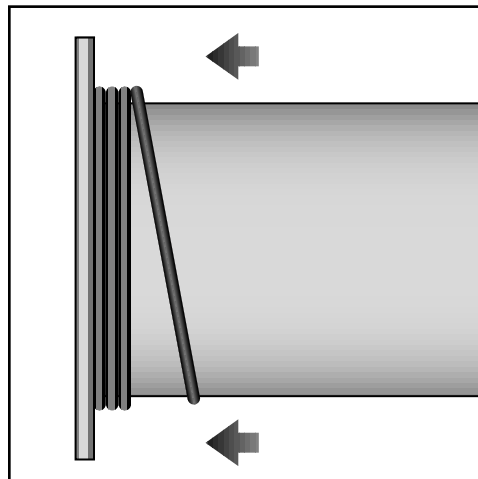
Q. Turn off Arm Disengage switch.

R. Tighten manual wraps against front of drum (Figure 26).

S. Close Access Doors on Tilt Panels and at rear of trailer.



**Figure 25. Open Cable Clamp  
And Secure Cable Inside**



**Figure 26. Tighten Manual Wraps**

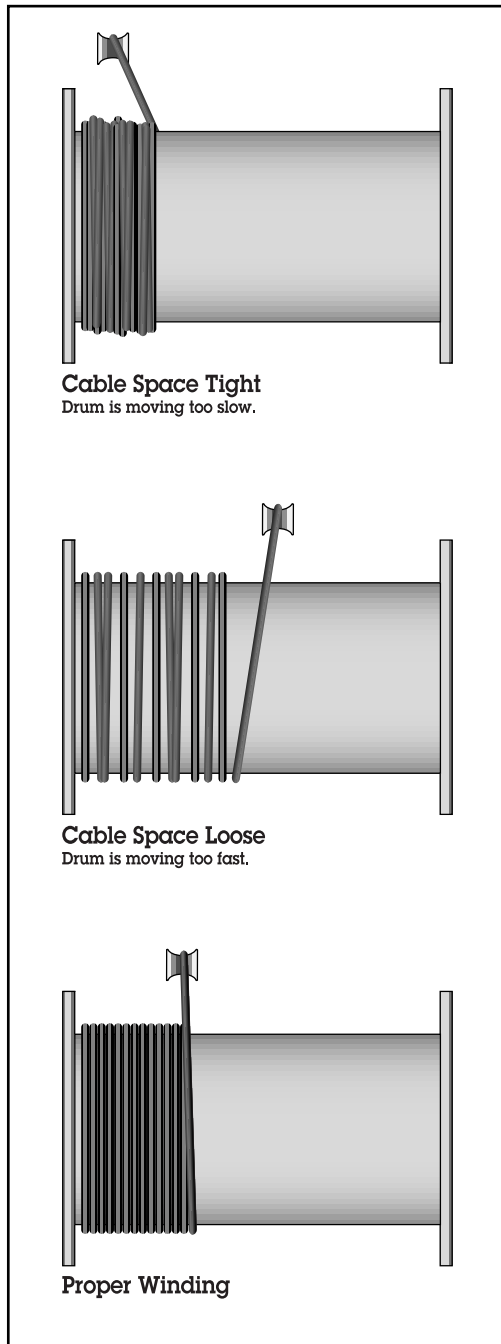
# Power Winding

## 7.

The Condux Figure-8 Eliminator Trailer is capable of winding cable at an average speed of 600 ft/min (179 m/min) or about 40 RPM. This productivity will vary with cable diameter, job site layout and equipment condition.

**Important! Always start the winding operation slowly, and gradually increase speed to attain maximum operation efficiency and cable safety.**

The power winding procedure requires fluent use of both electronic controllers, the Electronic Machine Controller and the Hand-Held Wired Remote Controller. Review the features and functions of the electronic controllers in Section 4 of this manual before beginning the power winding operation.



The drum moves a distance of one cable diameter for every rotation of the arm during power winding. It may be necessary to make minor adjustments in the speed of the drum movement during winding to ensure cable nests neatly on the drum (Figure 27). Note that the cable being placed needs to be slightly behind the cable wrapped on the drum to keep wraps tight (Figure 27).

**Important! Large spaces between cable or overlapping of cable will compromise the unloading procedure (Section 8) or may cause the drum to fill prematurely. Use the following corrective actions when needed to keep even wraps of cable on the drum.**

**Overlapping Cable:** While loading, you may double the speed of the drum for every rotation of the arm by pressing the (+) key on the Hand-Held Wired Remote Controller. This means the drum will move 2 cable diameters for every rotation of the arm.

**Space Between Cable:** While loading you may half the speed of the drum for every rotation of the arm by pressing the (-) key on the Hand-Held Wired Remote Controller. This means the drum will move 1/2 a cable diameter for every rotation of the arm.

Follow steps A through H for trouble-free Power Winding (Cable Loading) operation.

**Figure 27. Proper Cable Winding**

**CAUTION! Side Tilt Panels must remain open and pinned, Access Doors must remain closed during Power Winding operations. Be sure side panels are securely pinned in the open position. Failure to do this may cause damage to machine and cable.**

- A. Turn on electronic controller's switch on control panel.
- B. Input cable diameter using the Select and (+) and (-) keys on the Hand-Held Wired Remote Controller. The reading is in millimeters only.

**NOTE:** A Vernier Caliper (supplied) or a cable diameter gauge (not included) can be used to measure outside cable diameter (OD) on site.

- C. Start the engine by depressing the electric start button on the Electronic Machine Controller panel.
- D. Turn the throttle up on the engine.
- E. Be sure the Load Dial on the Hand-Held Wired Remote Controller is set at zero (counterclockwise). The loading process will not start if the Load Dial is not set at zero.
- F. Press the Start button on the Hand-Held Wired Remote. The LED will come on. If the LED is flashing, the Load Dial was not set to zero. Turn the Load Dial completely to zero (counterclockwise) and press the Start button again.
- G. Begin winding by gradually turning the Load Dial on the Hand-Held Wired Remote Controller clockwise (Figure 28). Winding speed will continue to increase as the dial is turned clockwise and will decrease by turning counterclockwise.



**Figure 28. Wind Load Dial Clockwise**

**Important! Always start the winding operation slowly, and gradually increase speed to attain maximum operation efficiency and cable safety.**

**Important! The operation may be shut down immediately by any one of the following actions:**

- **Stop button is depressed on the Hand-Held Wired Remote Controller.**
  - **Access Door is opened.**
  - **Emergency Stop button is depressed at the Electronic Machine Controller panel. (Requires restart of the electronic controllers.)**
- H. The drum will automatically reverse directions at the ends of the drum as the power winding continues.



- I. Discontinue power winding when there are approximately 5 to 6 wraps of cable left on the cable spool. The last 5 to 6 wraps should be removed from the spool by hand. Turn Load Dial counterclockwise to zero and stop engine by turning off at machine control panel.



**CAUTION!** Remove the last 5 to 6 wraps of cable slowly by hand to avoid end of cable whipping freely off the cable spool during power winding.

**NOTE:** If you must turn off the controllers during the power winding operation at any time before it is complete, there is a special procedure that must be followed to resume operation. The drum direction must be noted and corrected if necessary.

1. Turn on both electronic controllers, Electronic Machine Controller and Hand-Held Wired Remote Controller with switch on main panel.
2. Start the engine by depressing the electric start button on the machine control panel.
3. Turn the throttle up on the engine.
4. Be sure the Load Dial on the Hand-Held Wired Remote Controller is set at zero (counterclockwise). The loading process will not start if the Load Dial is not set at zero. Press the Start button and begin winding the cable.
5. If the drum begins to move in the wrong direction, stop the operation promptly by depressing the Stop button on the Hand-Held Wired Remote Controller.
6. Change the drum movement to the correct direction by pushing the Load Drum or Transport Drum button on the Hand-Held Wired Remote Controller.
  - Load Drum (moves drum towards the rear)
  - Transport Drum (moves drum towards the front)
7. Resume power winding operations from step 7-F.

## ***Unload Cable***

# 8.

Cable may be unloaded on to a cable reel or directly to a Condux Fiber Optic Cable Blower. Unloading Cable requires the Figure-8 Eliminator Trailer to be in Free Wheel mode and requires drag on the cable at all times to avoid whiplashing and tangling of cable.

- A. Start the Engine
- B. Start the Controller
- C. Increase Throttle
- D. Press Free Wheel Button on hand-held wired Remote Controller
- E. Check Drum movement for proper direction. If the drum begins to move in the wrong direction, stop the operation promptly by depressing the Stop button on the Hand-Held Wired Remote Controller. Change the drum movement to the correct direction by pushing the Load Drum button or Transport Drum button on the Hand-Held Wired Remote Controller.



- F. Use the Drag dial to adjust the amount of drag placed on the arms during unloading. It is essential to keep cable from developing slack. Start with very little drag and increase to desired level and monitor throughout entire unloading process.
- G. Remove last 4-5 wraps manually. Activate the Arm Disengage switch on the Electronic Machine Controller panel and rotate arms by hand.
- H. Remove cable from quad and single keeper rollers using the procedure described in Section 7.

## ***Prepare For Transport***

Care should always be taken to position drum for transport and properly stow components in the Condux Figure-8 Eliminator Trailer. After cable is unloaded, prepare for transport in the following way:

**CAUTION: Condux Figure-8 Eliminator Trailer is not intended to transport cable. Cable should be completely unloaded before transporting trailer to another location.**

9.

- A. Move drum into Transport position by pressing the Transport Drum key on the Hand-Held Wired Remote Controller. Drum should be at the far forward position for transport.
- B. Release the arms with the Arm Disengage switch on the control panel.



**Figure 29. Mount Arm Lock**



**Figure 30. Stow Controllers**

- C. Mount the Arm Lock to the arm housing (Figure 29).
- D. Turn off the Arm Disengage switch.
- E. Shut engine off.
- F. Close Access Doors at sides and rear of trailer.
- G. Close Tilt Panels on both sides of trailer.

- H. Turn off Machine and Hand-Held Wired Remote Controller.
- I. Disconnect electronics and stow controllers in bin below Electronic Machine Controller (Figure 30).
- J. Pull locking pin and secure in hole below latch for transport.
- K. Release jacks by turning crank. Wind jack up to approximately 3 inches (76.2 mm) above surface and rotate jack 90 degrees on its mount. Secure with pin for transport.
- L. Connect trailer to tow vehicle (if previously disconnected).

## ***Service & Maintenance***

### **10.**

- A. Follow Briggs and Stratton Owners Manual for engine maintenance (the engine oil drain is located beneath the trailer).
- B. Inspect tires (LT 225/75R16) for proper wear and always keep inflated to the specification denoted on the sidewall of the tire.
- C. Inspect lighting and replace bulbs as required.
- D. Maintain the hydraulic fluid with auto transmission fluid (Mercon/Dexron III) at least three quarter tank.
- E. Replace filters and auto transmission fluid when it turns brown color or after 500 hours of operation (the reservoir drain is located beneath the trailer).

## ***Troubleshooting Guide***

### **11.**

<b>Problem</b>	<b>Solution</b>
Drum moving in the wrong direction while loading and unloading after the machine was shut down.	Move the drum towards engine using transport drum button or move it towards the arms using the load drum button to guide the controller in the correct direction of the drum.
Drum is moving faster or slower than the arms.	The drum speed can be adjusted using '+' or '-' button depending on the drum direction and speed.
Machine will not run after pressing load button or the load button LED kept turning off after pushing it.	Check the Access Doors if they are closed and Tilt Panels are tilted.
Load LED is flashing after pressed.	Turn Load Dial completely counterclockwise (to zero) and press button again.

# Parameter Settings

These parameter settings are loaded into the controllers at the factory and should not need adjustment. Please contact the factory before making any changes to the parameter settings and for instructions on getting into the programming mode.

# A

## APPENDIX

Display	Actual Setting	Setting	Command/ Procedure
CBLE	15	15	Default cable diameter.
POSN	0-2500	0-2500	Drum position reading of the potentiometer. It is used to locate the drum loading and transport position.
B1		55	Bias transport to engine—to set the drum sensitivity moving toward the engine.
B2		55	Bias load to server—to set the drum sensitivity moving toward the arms.
B3		55	Bias server load—to set the motor sensitivity rotating the arms.
B4	0	0	Bias free wheel—keep it at zero.
LENG	1360	1360	Drum length measuring between the two flanges—always set it at 1360.
SCNT		336	Drum position for loading.
ECNT		2026	Drum position for transporting.
GAIN	5	5	
D1	100	100	Minimum drag.
D2	60	60	Maximum drag.
SLAG	0	0	Pulses on server before spool move—always set it at zero.
7PNH	140	146	The speed of the drum moving to transport position.
LOAD	140	141	The speed of the drum moving to load position.

# Replacement Parts

**B.**

## APPENDIX

	Part Number	Description
1	02267200	Kit, Tail Light-Waterproof Low Profile
2	02278509	Connector, Trailer 7-Way Blade
3	02288776	Cord set, Fig 8 Remote to Blower
4	02288779	Latch, T Handle-W/Lock
5	02288812	Spring, Gas
6	02288814	Cord set, Fig 8 Potentiometer
7	02288815	Cord set, Fig 8 Motor Signal
8	02288875	Caliper, Cable Diameter Fig-8
9	02288896	Bag, Fig 8 Remote Controller
10	08735110	Controller, Machine-Fig 8 Trailer
11	08735120	Control, Hand Remote-Fig 8 Trailer
12	08735130	Cord set, Fig 8 Remote Control
13	08735712	Tow ball, Male-Lock Assembly
14	08737001	Kit, Filter Replacement
15	08737002	Kit, Receptacle Turck Replacement
16	08737003	Kit, Limit Switch Replacement
17	08737004	Kit, Potentiometer Replacement
18	08737005	Kit, Channel Replacement
19	08737006	Kit, Hydraulic Hose Replacement
20	08737007	Kit, Quick Disconnect Replacement
21	08737008	Kit, Drum Eccentric Roller
22	08737009	Kit, Drum Horizontal Roller
23	08737010	Kit, Cable Blocks Accessories
24	08737011	Kit, V Quad Block Roller
25	08737012	Kit, Quad Block Roller
26	08737013	Kit, Dual Block Roller
27	08737014	Kit, Fairlead Latch
28	08737015	Kit, Fairlead Roller

# Warranty Information

13.

## A. FACTORY ASSISTANCE

Condux International can provide further advice regarding any problems with the installation, service, assembly, or disassembly of the Figure-8 Eliminator Trailer. Call toll free at 1-800-533-2077 (USA and Canada) or 1-507-387-6576 and ask for assistance. The Figure-8 Eliminator Trailer can be returned to the factory at any time for service or repair; however, a Return Material Authorization (RMA) must be obtained from Condux before shipping. Condux will not accept returned items without an RMA.

## B. LIMITED WARRANTY

Condux International, Inc. extends the following warranty to the original purchaser of these goods for use, subject to the qualifications indicated: Condux International, Incorporated warrants to the original purchaser for use that the goods or any component thereof manufactured by Condux International will be free from defects in workmanship for the period of one year from the date of purchase. Provided such goods are installed, maintained, and used in accordance with Condux's written instructions.

**Lack of routine maintenance as specified in the maintenance section of the User's Guide will void the warranty.**

Components not manufactured by Condux International but used within the assembly provided by Condux International are subject to the warranty period as specified by the individual manufacturer of said component, provided such goods are installed, maintained, and used in accordance with Condux's and the original manufacturer's written instructions.

Condux's sole liability and the purchaser's sole remedy for a failure of goods under this limited warranty, and for any and all claims arising from the purchase and use of the goods, shall be limited to the repair and replacement of the goods that do not conform to this warranty.

To obtain repair or replacement service under the limited warranty, the purchaser must contact the factory for a Return Material Authorization (RMA). Once obtained, send the RMA along with the defective part or goods, transportation prepaid, to:

Condux International, Inc.  
145 Kingswood Road  
Mankato, MN 56001 USA

**THERE ARE NO EXPRESS WARRANTIES COVERING THESE GOODS OTHER THAN AS SET FORTH ABOVE. THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO ONE YEAR FROM DATE OF PURCHASE.**

**CONDEX ASSUMES NO LIABILITY IN CONNECTION WITH THE INSTALLATION OR USE OF THIS PRODUCT, EXCEPT AS STATED IN THIS LIMITED WARRANTY. CONDEX WILL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**



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**Condux International, Inc.**

P.O. Box 247 • 145 Kingswood Road, Mankato, MN 56002-0247 USA

1-507-387-6576 • 1-800-533-2077 • FAX 1-507-387-1442

Internet: <http://www.condux.com> • e-mail: [cnxinfo@condux.com](mailto:cnxinfo@condux.com)

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